

# HEART HEALTH IN THE WORKPLACE

Program Development Guide



*Workplace Wellness Works Project*

The Alberta Heart  
Health Project  
1999



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Program Development Guide

*This manual is a product of*

*The City of Edmonton  
“Wellness Works” Project*

An initiative of the  
The Alberta Heart Health Project



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## **PREFACE: THE ALBERTA HEART HEALTH PROJECT**

Cardiovascular disease, the leading cause of premature death among Albertans, has a severe impact on the quality of life in Alberta. Over half of adult Albertans have an elevated risk of developing cardiovascular disease. A 1990 Alberta Heart Health Survey indicated that 57% of the adult population exhibited one or more of the three major heart health risk factors: high blood cholesterol, high blood pressure, and use of tobacco. If physical inactivity is also included as a major risk factor, the percentage of adult Albertans at risk increases to 72%. The survey also made it clear that greater heart health awareness and community involvement in heart healthy activities are needed before Albertans can take primary responsibility for preventing this disease. For these reasons, Alberta Health decided to participate in the Canadian Heart Health Initiative (CHHI), a nationwide impetus to encourage provincial health systems to explore strategies for mobilizing community resources and enhancing community participation in heart health promotion activities. In 1993, the Alberta Heart Health Project (AHHP) was launched, being jointly funded by Alberta Health and Health Canada.

The primary objective of the AHHP was to promote heart-healthy lifestyles by facilitating and evaluating community-based initiatives that may reduce the risk of cardiovascular disease in Alberta. The demonstration phase (1993-97) was an investigation of strategies for enhancing heart health promotion in diverse communities. The four demonstration sites were: a comprehensive school health project in the City of Calgary; a large urban workplace site in the City of Edmonton; small rural clusters surrounding the City of Red Deer; and the urban/rural towns of St. Paul and Bonnyville. The common aim of research at these sites was to document community involvement in heart health promotion and to understand the elements that constitute the readiness and capability of rural and urban settings to adopt heart health initiatives. Project volunteers worked to accomplish this goal through awareness and education about heart disease, and by creating an environment that supports heart healthy lifestyles. Community leaders participated as partners with project researchers to implement and sustain their shared goals for heart health promotion activities in the demonstration sites.

Project researchers investigated the following questions: What motivates communities to become involved in heart health activity? How can community-based interventions facilitate the adoption of heart healthy lifestyles? Did the demonstration projects develop models useful to other communities? The results of the evaluation were encouraging. The AHHP has provided useful information about how heart health activities can be sustained by integrating vision, leadership, resources and support into the health system. This valuable experience has provided Alberta Health, and participating Regional Health Authorities and other organizations, with strategies for implementing community-based heart health initiatives as well as with knowledge for disseminating heart health promotion to Albertans.

“Wellness Works” was the motto of the City of Edmonton AHHP demonstration site. A partnership was created with the Human Resources Department to promote heart health among municipal employees. The purpose of this workplace project was to investigate



the effects of heart health initiatives on the lifestyle behaviours, self-rated health and absenteeism of employees. The results provide useful information about how heart health activities can promote workplace wellness, through vision, leadership, resources and policy-making. This valuable experience has provided Alberta Health, participating Regional Health Authorities and other organizations, with effective strategies for implementing workplace heart health initiatives, as well as with knowledge for disseminating heart health promotion to Albertans. This manual has been prepared to assist health and human resource professionals in designing a wellness program and for developing and implementing heart health initiatives in the workplace.

## ACKNOWLEDGEMENTS

The City of Edmonton “Wellness Works” Project was made possible by the support and contributions of many individuals, the Workplace Wellness Steering Committee and Senior Management. The organizing committee of Wanda Wetterberg, Judy Sefton, Kathy Ness (AHHP) and the entire City of Edmonton Workplace Wellness Steering deserve praise and recognition for their energy and dedication to the project. Health Canada’s National Health Research and Development Program (NHRDP) and Alberta Health (through the Alberta Heart Health Project) jointly funded the project.

Special thanks are extended to the following individuals for their inspiration and support: Joyce Tustian, David Bray, Bruce Thom, Maria David-Evans, Lee Costea, Erin Lewyk, Sue Daelman, Gordon Stang, Richard Thompson, David Wickins, Keith McLaughlin, Nora Johnston and Rudy Dressendorfer. Invaluable technical advice for the project came from the Research Advisory Group, Dr. Erwin Fischer, (City of Edmonton) and Don Schopflocher (Alberta Health).

This manual was written and compiled by Judy Sefton, Ph.D., City of Edmonton “Wellness Works” Project Coordinator. Special thanks go to Rudy Dressendorfer, Ph.D., Shirley Pannell, R.N., and Dr. Raymond Pannell who reviewed drafts of this “Program Development Guide” and provided editorial input.

Finally, a special thanks to all participating employees, who were keenly interested in learning more about their “heart health”. These men and women are helping lead the way for heart health promotion by taking personal responsibility for their health.

## SPECIAL RECOGNITION

There were a few incredible people who did “just about everything,” from conceptual design discussions, to project management, to project delivery, to reviewing drafts of reports, abstracts and manuals, to chief cheerleader. This project has been fortunate to have Frieda Doz and Sandra Rudd, two dedicated and supportive occupational health nurses from the City of Edmonton’s Human Resource Department, who deserve *special recognition* for the various “roles” they have played throughout the course of the project.

## TABLE OF CONTENTS

Preface	ii
Acknowledgements	iii
Introduction	1
Setting the Context for Heart Health	2
Justifying Proactive Health programs	2
By Knowing Your Numbers	2
The Model	3
Re-Packaging and Re-Focusing	4
Why Heart Health in the Workplace?	5
The Heart Health Project	6
Research Advisory Group	6
Selecting a Target Group	6
Selling the Heart Health Project to Management	7
The Heart Health Project: Methods, Procedures, Tools & Equipment	7
Heart Health Risk Screening	7
The Counseling Process	8
The Counseling Booklet	8
Baseline Participation and Results	17
Research Design	17
Heart Health Programming	18
Participation Rates after Second Risk Screening in 1997	19
Key Research Findings	20
Summary of Results after Second Risk Screening in 1997	21
Treatment versus Control Group Results	22
Changes in Absenteeism (Dollar Savings)	23
Putting the Numbers in Perspective	26



Telling the Story (Dissemination)	34
Conclusions	34
References	35
Recommended Reading List	36
Appendix A: Selling the Heart Health Project to General Managers	38
Appendix B: Evaluation Questionnaires for Heart Health Project	45
Appendix C: Baseline Heart Health Screening Results	56
Appendix D: Wellness Checkpoint Guidebook	61



## **LIST OF FIGURES**

Figure 1	Health Management Model – City of Edmonton	3
Figure 2	City of Edmonton Workplace Wellness Strategy	4
Figure 3	Average Hours STD Absenteeism	23
Figure 4	Average Days of STD Absenteeism	24
Figure 5	Average Costs of STD Absenteeism	25



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# INTRODUCTION

## Why Workplace Health?

The burden of illness and its associated costs extend beyond the public healthcare boundaries. Workplaces across the country, be they large or small, private or public sector are all impacted by the health of their workforce. In 1993 short-term disability cost Canadian workplaces \$18 billion, while long-term disability added a further \$38 billion to the cost of doing business (Health Canada, 1997).

The costs of illness and/or injury in the workplace are escalating in conjunction with the aging of the Canadian workforce. The average age in many large Canadian companies is now reaching 42-45, which coincides with the age when we start to note increasing activity limitations and declines in personal health (Health Canada, 1996). It is expected that the direct and indirect costs of illness and injury in the workplace will continue to escalate into the next millenium – strongly linked to the aging of the workforce. This will place tremendous burdens on some already stretched health benefit programs within workplaces, as well as short and long-term disability programs. There is already pressure on many Human Resource departments to examine the merits of flexible benefit plans for their employees – as just one measure to curb escalating costs. Often included in these ventures are examinations of company prescription drug and dental plans.

In addition to approaching employee health from a reactive position (i.e., help employee after they are already ill), many progressive Canadian companies are launching proactive health programs for their employees and are beginning to recognize the impact between work environments and employee health. The City of Edmonton (municipal government) has been one of the employers seeking alternative ways to deal with the escalating burden of employee illness. Their story follows – together with suggestions, examples and an overview of the impressive results they found when a heart health program was successfully launched in two departments from 1996-1998.

# **SETTING THE CONTEXT FOR HEART HEALTH**

## **The Beginning....**

### **Justifying Proactive Health Programs**

The nineties will be remembered as the decade of corporate reorganization and downsizing. The booming and expansion oriented eighties could not be maintained and the belt-tightening 90's took over. Nothing was sacred when it came time to examine corporate budgets, which meant that many Human Resource functions were now "on the table". This was a very new position for human resource personnel as in the past their contribution to the workplace had seldom been questioned. Some of the big ticket items being re-examined within the human resource arena were employee benefit programs and employee absenteeism (e.g., short and long-term disability; occupational injury) – which can be considered measurement tools for the health of the workforce.

### **By Knowing Your Numbers....**

When the City of Edmonton began to examine the trends for occupational and non-occupational absenteeism as well as drug plan and dental plan benefits, they soon realized that this was an area of concern. In 1993 the combined total direct cost of non-occupational absenteeism was \$13 million, with the cost of drug and dental plans adding another \$6.5 million. Indirect costs (e.g., backfilling jobs, overtime, lost productivity, etc.) for absenteeism are not available, but conservative estimates suggest this can add up to 50% of the direct costs. Clearly, if the City were able to impact these numbers by even 5%, considerable economic benefits would be realized.

### **KEY LEARNING**

#### **Measurement Tools for the "Health of Our Human Resources"**

**Short-term Disability (STD)**

**Long-Term-Disability (LTD)**

**Occupational Disability (WCB)**

**Prescription Drug Utilization**

**Dental Plan Usage**

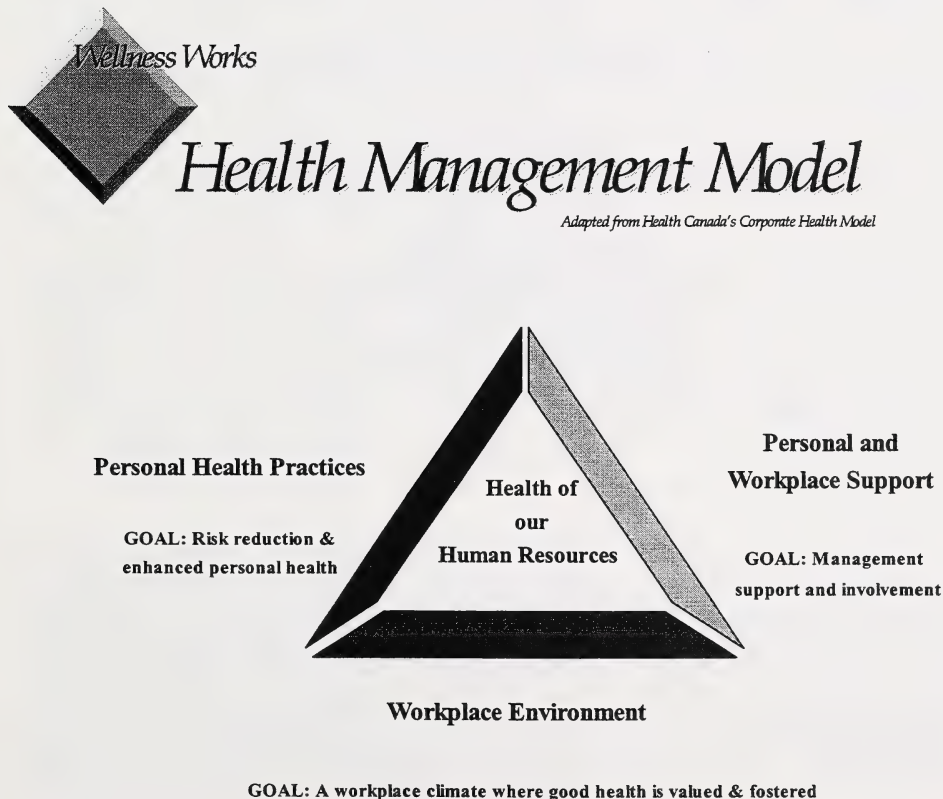
**Employee Assistance Program Utilization**



## The Model...

In the fall of 1993, City Council approved the development of an Employee Wellness program that would focus on three components – individual health practices, work environment and support systems within the workplace (Fig.1).

The City of Edmonton's simplistic model of employee wellness is adapted from the Fig.1 Health Management Model – City of Edmonton



Corporate Health Model developed by Health Canada (1990). The Corporate Health Model has been successfully implemented in many workplaces across Canada. For more information about the model and the many workplace health promotion resources available from Health Canada contact the Workplace Health Unit in Ottawa.

## **KEY LEARNING**

**Have some kind of conceptual picture of what impacts “health” in your organization and in the people who work with and for you.**

### **Re-Packaging and Re-Focusing ...**

In many ways this was not a new initiative, but merely a “re-packaging” of the way programs had been viewed in the past. Figure 2 provides an overview of the City of Edmonton’s employee wellness program. The asterisks indicate new components of the program that were added to enhance health promotion in the workplace.



Figure 2. City of Edmonton Workplace Wellness Strategy

## **City of Edmonton Workplace Wellness**

### **Strategy**

#### ***Awareness***

CityLink Articles\*  
EFAS Awareness  
Ergonomic Awareness  
Eyestrain Awareness Stickers\*  
Pay-Stub Messages\*  
Sneaker Day Festivities\*  
Wellness Works Displays\*

#### ***Health Protection***

Back Care Education  
Critical Incident Stress Management  
EFAS Services  
Eyestrain Manual  
Immunization Clinics  
Periodic Health Screening  
Rehabilitative Employment  
Stress Management

#### ***Corporate Culture/ Environment***

Benefit Plans & Customer Service Training  
Diversity Initiative  
Leadership for Safety Excellence Training  
Leadership Training (Managers and Supervisors)\*  
OH&S Strategic Planning  
Quality Performance Initiatives  
Shift Work Guidelines  
Voluntary Workforce Reduction Program

#### ***Information & Communication***

AIDS in the Workplace  
CityLink Articles\*  
Health Consumerism\*  
Injury Statistics Reporting  
OH&S Program Evaluation  
Wellness Bulletin Boards\*

#### ***Facilitating Behaviour Change***

Personal Wellness Planner Workshop\*  
Sign-In&Win Fitness Facility Contest\*  
Wellness Clinics  
Safety Recognition Programs  
Smoking Cessation  
Alberta Heart Health Project\*



## WHY HEART HEALTH IN THE WORKPLACE?

Cardiovascular disease remains the major cause of death and illness in Canada (Heart & Stroke Foundation of Canada, 1991). It accounts for more deaths annually (more the 40%), than the combined total deaths due to cancer, AIDS and accidents (Heart & Stroke Foundation of Canada, 1992). It follows that cardiovascular disease is also the most costly disease in Canada. Total 1993 costs for cardiovascular disease (direct and indirect costs) were close to \$20 billion – \$7.4 billion for coronary heart disease alone (Health Canada, 1997).

The sheer magnitude of incidence and cost of cardiovascular disease, together with an aging workforce and recent results from the Alberta Heart Health Survey (Alberta Health, 1992) helped the City of Edmonton decide to focus a special pilot project on heart disease. There are four modifiable risk factors associated with cardiovascular disease: high blood pressure; high blood cholesterol; smoking and physical inactivity. The Alberta Heart Health Survey<sup>1</sup> found that 14% of Albertans have high blood pressure; 36% have high blood cholesterol; 27% smoke; 37% have a sedentary lifestyle and 51% are overweight (have a body mass index (BMI) which > 25). These are serious warning signals to the health of Albertans since so many disease states are associated with these risk factors (i.e., cancers, diabetes, etc.).

As if the provincial numbers were not convincing enough, the City of Edmonton examined the results from the “Health in the Workplace Survey” they conducted in 1993 – which helped establish baseline health parameters for their Workplace Wellness initiative. These results shed light on the cardiovascular risk factors present in the employee population in the fall of 1993. Twenty-six percent of employees smoke, 12% rarely or never exercise and 56% were overweight (BMI ≥ 25). Blood pressure and cholesterol comparisons were not available.

### KEY LEARNING

**If your workplace has never completed a health survey, simply look to the provincial results from the various national Health Promotion or Population Health Surveys completed in the last decade. *Better still, check results from your provincial Heart Health Survey.* Chances are your workforce will mirror the provincial results and you will have something to base and design your program on.**

---

<sup>1</sup> Every province in Canada completed a major Heart Health Survey in the early 90's. Consult with your provincial Department of Health for your provincial results.

# THE HEART HEALTH PROJECT

## Research Advisory Group

To help facilitate the best possible project design and to make sure we were asking the right evaluation questions, the City chose to involve a group of health promotion and heart health experts from across western Canada. The group was invited to Edmonton for an intensive one-day retreat to discuss possible directions the City's workplace heart health project could take. The group then maintained involvement in the project through bi-annual updates from the project director. The group included: Dr. Ron Dyck and Keith McLaughlin (Alberta Health); Dr. Ruth Collins-Nakai, Dr. Art Quinney and Dr. Leonard Wankel (University of Alberta); Dr. Robert Faulkner and Dr. Bruce Reeder (University of Saskatchewan); Dr. Wayne Pealo (Malaspina University College); Dr. Dave Wiles (City of Edmonton Police) and Dr. Judy Sefton (Workplace Wellness Coordinator and Heart Health Project Coordinator, City of Edmonton).

### ***KEY LEARNING***

**When beginning to plan a health promotion program for your organization, look for help from the expertise that surrounds you. Provincial Health Departments can directly assist you or at least help you find the expertise you need. Look also to workplaces that already have successful programs in place.**

## Selecting a Target Group

In an effort to keep the heart health project manageable and targeted, the City chose to focus on one department within the corporation. The department was selected based on the following criteria: escalating absenteeism for the past five years; high levels of modifiable risk factors (smoke, physical inactivity, overweight); a representative sample of the population of City of Edmonton employees (age, gender split, length of employment) and a receptive management team.

In addition to the selected department, Alberta Health and the Research Advisory Group encouraged the City to also select a highly female dominated department to help assist in understanding women and cardiovascular disease. The same selection criteria were used, with the exception of gender split. In the end two departments, with a combined total of 797 employees were selected to participate in "Healthy Hearts at Work" - the City's heart health project.



## **Selling the Heart Health Project to Management**

A *concise, targeted presentation* was prepared and presented to each department General Manager. In both cases the General Manager readily agreed to allow the Human Resource department to present the same information to their respective Management Teams for final approval. One of these presentations can be found in Appendix A. To ensure confidentiality, the name of the department as well as any other possible identifying information have been removed.

Take a moment to look at this presentation because it provides a wealth of information about the department and the relative need for the project. You should be able to get many ideas and hints from the *data-based approach* taken by the City of Edmonton to seek approval for the heart health project from senior management.

### **KEY LEARNING**

**When preparing a presentation to Senior Management Groups, keep things concise, targeted and data-based. Be prepared for and anticipate questions you might be asked. Always remember to emphasize “What’s in it for them”.**

## **THE HEART HEALTH PROJECT: METHODS, PROCEDURES, TOOLS and EQUIPMENT**

### **Heart Health Risk Screening**

The major foundation for the heart health project was built on offering a voluntary heart health risk-screening clinic to all interested employees in the two target departments. This would facilitate measuring the potential impact of major modifiable risk factors in employees, as well as provide the opportunity to educate employees on the importance of these risk factors to their overall long-term health.

Every employee who volunteered for the heart health project participated in a 20 minute comprehensive heart health risk screening clinic in September or November of 1996 and then again a year later. The General Managers of both departments endorsed use of work time and employees were strongly encouraged to participate.

Prior to beginning the risk screening, employees were asked to complete a brief questionnaire that included questions on heart health knowledge, smoking and physical activity behaviours, corporate wellness initiative participation and demographic information. Both the pre (1996) and post (1997) questionnaires are included in Appendix B.

Testing protocols for measuring blood pressure, height/weight, and waist/hip ratios followed accepted Canadian standards (CSTF, 1987; Alberta Health, 1992; Canadian Coalition for High Blood Pressure and Control, 1994). Cholesterol (both Total and HDL) was measured using the portable and cost-effective Cholestec System, which is well suited for screening purposes (Motz and Quinn, 1997).

Each employee then progressed through four testing stations: blood pressure – systolic and diastolic; blood cholesterol – Total and HDL; height and weight - for body mass index (BMI); and waist/hip measures - for waist/hip ratios. After each measure was taken, the professional staff (which consisted of two Occupational Health Nurses, one Certified Fitness Appraiser and the research coordinator/principal investigator) counseled the employee and covered the contents of a specially designed employee heart health booklet.

### **KEY LEARNING**

**When designing a major project, look to the literature for ideas, testing protocols and equipment that have been tried and tested by others. Often you will learn what they would have done different if they had the project to do over again. These can be very helpful in allowing you to avoid some potential pitfalls in your own project. In addition to a literature search, talk and network with other workplace professionals who have completed similar projects in their own setting. Get tips and tricks from their experience. Ask lots of questions!**

### **The Counseling Process**

The importance, value and benefit of the **counseling component** of the heart health risk screening *cannot be overemphasized*. All employees were particularly impressed with the amount they learned during this important process. Having credible, knowledgeable and conscientious professionals added greatly to the success of the counseling component. It was also beneficial to have a variety of booklets available for employees to take with them after the risk-screening clinic. This enabled employees to take the materials home and review them with their spouses and/or children.

### **The Counseling Booklet**

Occupational health professionals at the City of Edmonton specially designed the heart health project counseling booklet. Materials were gathered from a number of sources and packaged to assist employees understand what their numbers meant and what they could do to change those readings if they so desired. The booklet is reproduced as a reference and for potential future use.

## HEALTHY HEARTS AT WORK

**Healthy Hearts at Work** is an excellent opportunity to evaluate and learn about your current level of heart health. The purpose of this event is to increase your awareness of heart health risk factors and the lifestyle changes that can help reduce these risks.

There are four different assessment stations today. When you have completed all of them you will have a good picture of your current level of heart health. Each assessment is easy to collect and will be done by competent professionals. Our team (two Nurses and one Certified Fitness Appraiser) will ensure all measures are taken in an accurate, reliable, and timely manner.

The results of each assessment will be recorded in your passbook and given to you immediately after it has been taken. This way there will be plenty of time to discuss questions or concerns regarding your results.

Once you have completed the measurement stations there will be an area where you can gather the latest information on heart health topics. There will be a variety of information available on topics such as blood pressure, cholesterol, nutrition hints, exercise, nutrition labeling, heart healthy eating, fibre facts, dietary fat, tobacco and your heart, etc.

We hope you take advantage of the opportunity to learn how heart healthy you are and that you take away some tips to encourage you to continue to be heart healthy.

### YOUR HEART HEALTH RESULTS

1. Blood Pressure: \_\_\_\_\_ / \_\_\_\_\_ mmHg

2. Cholesterol: TOTAL \_\_\_\_\_ mmol/L

HDL \_\_\_\_\_ mmol/L

3. Body Mass Index: Height \_\_\_\_\_ Weight \_\_\_\_\_ BMI \_\_\_\_\_

4. Waist to Hip Ratio: Waist \_\_\_\_\_ Hip \_\_\_\_\_ WHR \_\_\_\_\_



# BLOOD PRESSURE

## WHAT IS BLOOD PRESSURE?

**Blood pressure** is the force that blood exerts on the walls of your arteries. This force is caused by the pumping or beating action of the heart plus, the resistance of your arteries to the resulting flow of the blood.

**Blood pressure** is recorded by two numbers. The higher number is called *systolic blood pressure* and indicates the maximum pressure existing in your arteries when the heart beats. The lower number is called the *diastolic blood pressure* and indicates the minimum pressure existing in your arteries while the heart is at rest between beats.

## WHY IS YOUR BLOOD PRESSURE MEASUREMENT IMPORTANT?

**High blood pressure** is a major contributing factor toward strokes, heart disease, and kidney failure, and directly or indirectly kills or disables more Canadians than any other medical condition. High blood pressure is called Hypertension.

Unfortunately, **high blood pressure** usually has no symptoms. You can feel great and still have high blood pressure. Therefore, periodic measurement of your **blood pressure** is most important.

## WHAT DO THE NUMBERS MEAN?

The following chart gives guidelines for adults:

Systolic ⇒	Normal below 130	High Normal 130 - 139	High 140 & Above
OVER			
Diastolic ⇒	Normal below 85	High Normal 85 - 89	High 90 & Above

## DOES BLOOD PRESSURE CHANGE?

Yes...**blood pressure** can vary from minute to minute. Therefore, consecutive readings will usually differ. The average of 5 to 10 measurements taken over a period of several days will more accurately reflect your general or typical pressure.

### WHAT ARE SOME RISK FACTORS FOR HYPERTENSION?

Certain conditions, habits or lifestyles can increase the risk of developing hypertension. You can control some of these risk factors.

FACTORS YOU CAN CONTROL	FACTORS YOU CANNOT CONTROL
<ul style="list-style-type: none"> <li>• Obesity</li> <li>• Smoking</li> <li>• Eating an appropriate diet</li> <li>• Drinking too much alcohol</li> <li>• Letting stress get out of control</li> </ul>	<ul style="list-style-type: none"> <li>• Family History</li> <li>• Age (being over 55)</li> <li>• Being a male</li> <li>• Being a female past menopause</li> </ul>

### POSITIVE LIFESTYLE CHANGES YOU CAN MAKE!

- Maintain body weight at optimal recommended level
  - Stop smoking
  - Reduce dietary saturated fat and cholesterol
    - Exercise regularly
    - Restrict alcohol consumption
- Limit sodium intake and increase potassium intake
  - Get your blood pressure checked periodically

### WHAT ABOUT LOW BLOOD PRESSURE?

Low blood pressure is NOT a risk factor for coronary artery disease. It is usually of no significance, but may be a manifestation of some other problem and should be discussed with your doctor.

# CHOLESTEROL

FOR AGE 30 AND OVER

## WHAT IS CHOLESTEROL?

Cholesterol is a fat-like substance found in everyone's body. It is essential to life. Without it the human body could not function normally. It is the key component of all cell walls and is needed for the production of sex hormones, Vitamin D, bile (essential for digesting the fat we eat) and other substances.

Cholesterol, unfortunately, is also the main component of plaque, the substance that forms on the linings of arteries, causing them to become rough and narrowed. This condition is known as "hardening of the arteries" or atherosclerosis, and is responsible for most heart attacks and strokes.

## WHAT ARE DESIRABLE CHOLESTEROL LEVELS?

Shown below are the desirable levels of Cholesterol and lipoprotein, for people 30 years and older, as recommended by the Cholesterol Consensus Conference. Levels that are different from the recommended range are strongly related to the development of atherosclerosis.

BLOOD TEST	DESIRABLE NUMBER (MMOL/L)	REMARKS	RECHECK
TC	5.2 OR LESS	ACCEPTABLE RANGE	3-5 YEARS
	5.2-6.2	BORDERLINE ZONE CONSULT FAMILY DOCTOR	3-5 YEARS
	6.2 OR MORE	TOO HIGH CONSULT FAMILY DOCTOR	AS ADVISED BY DOCTOR
HDL	0.9 OR MORE	ACCEPTABLE RANGE	3-5 YEARS
LDL	3.4 OR LESS	ACCEPTABLE RANGE	3-5 YEARS
TG	2.3 OR LESS	ACCEPTABLE RANGE	3-5 YEARS
TC= Total Cholesterol; LDL= Low Density Lipoprotein; HDL= High Density Lipoprotein; TG= Triglyceride			

The "Good Cholesterol" = HDL      The "Bad" Cholesterol = LDL

Whatever the Cholesterol level, it is advisable to practice healthy eating every day. Blood Cholesterol can be lowered in many individuals by eating a heart healthy diet. This diet is lower in fat, saturated fat, salt, and sugar, and higher in fibre. There is also strong evidence that cigarette smoking, high blood pressure, diabetes, overweight, lack of exercise and undue stress, as well as high blood Cholesterol are important factors for coronary heart disease. These factors should be addressed in all people, and particularly in those who are at high risk.



## FAT IN FOODS

To lower Cholesterol levels in the blood it is also helpful to lower the total amount of fat you eat. Of all the types of fat eaten the one that raises cholesterol the most is saturated fat. These fats are found in foods of animal origin and also in tropical oils (coconut and palm). **AVOID ANIMAL PRODUCTS WITH A HIGH FAT CONTENT**

Watch the method of preparation, frying and deep-frying adds to the fat content of the item.

### TRY THESE STEPS TO LOWER YOUR FAT INTAKE

- Trim all visible fat from meat and poultry before cooking. Try not to add fat to the food during cooking.
- Avoid deep fried foods such as french fries, fried chicken and donuts.
- Regular salad dressings have a high fat content. Use calorie reduced varieties in small amounts on your salad.
- Nuts and products made with them for example peanut butter have high fat contents. Use in small amounts.

CALCULATING A HEALTHY FAT INTAKE			
AGE	AVERAGE CALORIE NEEDS	MAXIMUM 30% FAT	PER MEAL (APPROXIMATELY)
<b>WOMEN</b>			
19-24	2,100 A DAY	70 GRAMS	23 GRAMS
25-49	1,900 A DAY	63 GRAMS	21 GRAMS
50-74	1,800 A DAY	60 GRAMS	20 GRAMS
<b>MEN</b>			
19-24	3,000 A DAY	100 GRAMS	33 GRAMS
25-49	2,700 A DAY	90 GRAMS	30 GRAMS
50-74	2,300 A DAY	76 GRAMS	25 GRAMS
1. If you know your actual calorie intake, simply calculate 30% of it, then divide by 9 (the number of calories in a gram of fat). For example, 1,500 calories x .30 = 450/9 = 50 grams of fat.			
2. Amount of either saturated, mono-unsaturated or polyunsaturated fat consumed = 10% of daily calories.			

### HOW TO BUY MARGARINE AND OIL

All margarine is high in total fat content and should be used in small amounts. ***BUY SOFT TUB STYLE MARGARINE WITH LIQUID OIL LISTED AS THE FIRST INGREDIENT.***

Try not to add fat to flavor foods. Oils made from canola, olive, corn, soybean, sunflower or peanut are acceptable. However, these products are also high in fat and should be used in limited amounts. **FOODS LABELED AS CHOLESTEROL FREE ARE NOT NECESSARILY FAT FREE.** In fact all oils and margarine are 100% fat, use sparingly.

# BODY MASS INDEX

## WHAT IS BMI?

BMI is a standard based on a comparison of height in meters with weight in kilograms. This formula is the same for men and women. It is however not accurate for those under 20 years, those over 65 years, pregnant or lactating women, and very muscular individuals. The BMI scale suggests healthy weights at each height and indicates whether or not you are at low, moderate, or high risk for developing health problems as a result of your weight.

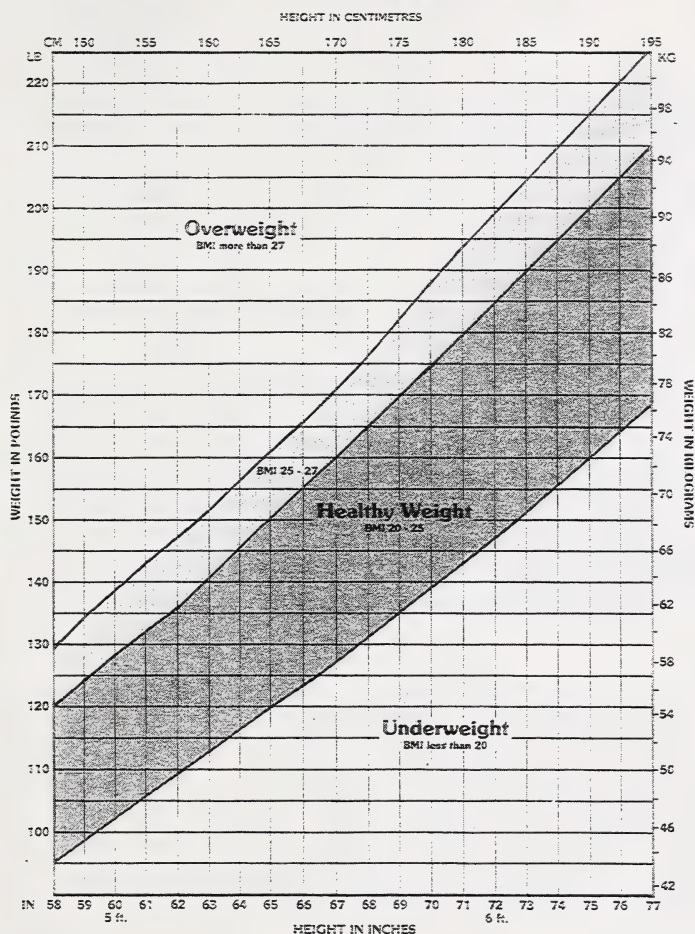
BMI recognizes that there are a variety of healthy body shapes and sizes. By using the BMI standard you can determine a healthy weight for your size rather than an “ideal” or “desirable” weight. If your BMI indicates that you are at a healthy weight you are at low risk for health problems. The Body Mass Index accepts a number of weights for each height that are acceptable. Remember, body shape and size are, to a large part, determined by heredity. You can calculate your BMI on the other side of this page. Once you have found where you are in relation to your healthy weight you can make plans. By choosing to adopt sound lifestyles, such as eating good nutritious meals and exercising regularly, you can achieve and maintain a healthy weight.

## ARE YOU AT A HEALTHY WEIGHT?

CANADIAN GUIDELINES FOR HEALTHY WEIGHTS (For adults 20 to 65 years of age)			
BMI less than 20	BMI between 20 and 25	BMI between 25 and 27	BMI more 27
May be associated with health problems including osteoporosis eating disorders and decreased resistance to infection.	Good weight for most people	May lead to health problems in some people. Try not to gain more weight.	May be associated with health problems such as heart disease, high blood pressure, diabetes and some types of cancer.

Calculate your Body Mass Index (BMI) on the next page ➔

## ARE YOU AT A HEALTHY WEIGHT?



1. Find your weight on the left hand side of the graph.
2. Find your height on the bottom.
3. Find the point where the two lines meet for your BMI range.

Keep in mind that the healthy weights suggested by the BMI provide only guidelines for most adults and does not take body composition (% fat, %muscle, & bone density) into consideration. If your BMI score indicates that you might be at risk for developing health problems consult your general physician for any concerns you may have.

**NOTE:** The Body Mass Index has been adopted by a Canadian Expert Group on weight standards set up by Health & Welfare Canada. BMI is reliable, accurate and valid.

## WAIST TO HIP RATIO (WHR)

The WHR measurement is another valuable tool in assessing whether you are at risk for health problems. Calculating the WHR gives an indication of the distribution of fat in the body. Distribution of fat in the upper abdominal area is associated with increased health risk for cardiovascular disease, high blood pressure, and diabetes. To help determine pattern of fat, try this:

$$\text{WHR} = \frac{\text{Waist Measurement(cm)}}{\text{Hip Measurement(cm)}}$$

Divide waist measurement by hip. If the answer is greater than .9 and you're a man then you want to lose fat; for women the number is anything over 0.8.



## HEART HEALTH IN CANADA

The Canadian Heart Health Initiative was launched in 1985. During the first years a master plan was developed and several provinces carried out surveys to assess the prevalence and distribution of heart health risk factors in the population. The Alberta Heart Health Survey was completed in 1990. All ten provinces have now completed their surveys and we have the largest comprehensive population database in the world. Analysis is now completed and the results are published in "Canadians and Heart Health... Reducing the Risk: (Health Canada, 1995).

The Canadian Heart Health Initiative is now in its second phase in which public health systems within each province are implementing Heart Health programs approved by the National Health Research and Development Program (NHRDP) of Health Canada. The national project will be completed in 1997-1998 and results and the evaluation will be published and used by the provinces to implement successful aspects of these programs to a wider base.

## ALBERTA HEART HEALTH PROJECT

The Alberta Heart Health Project (AHHP) is a four-year community-based project aimed at improving heart health throughout Alberta. Three demonstration sites in Calgary, Red Deer and St. Paul came on stream in 1993, while the fourth site in Edmonton started in late 1995. These sites are unique and offer a variety of settings to target heart health.

- ♥ a comprehensive school heart health initiative between Calgary Health Services and the Calgary Board of Education
- ♥ a "Heart of the Land" project, building heart healthy communities in rural areas just outside Red Deer.
- ♥ A "Straight From the Heart" project, under the leadership of the Lakeland Health Region, building community support for individuals in the St. Paul and Bonneyville areas to make positive changes in their lifestyles around nutrition, smoking and physical activity.
- ♥ The Edmonton "Healthy Hearts at Work" project will investigate the effects of a major heart health initiative on lifestyle behaviours and absenteeism in a large municipal corporation. The City of Edmonton's Human Resources Department is providing leadership for the project.

These four demonstration projects are part of the Canadian Heart Health Initiative, jointly funded by Health Canada and Alberta Health. Total funding is \$2 million over four years.

## Baseline Participation and Results

Baseline participation was encouraging with 290 employees taking part in the voluntary screening process. Department 1 had 33% participation (214 out of 648 employees) while Department 2 had 51% participation (76 out of 149 employees). Baseline department participation and average risk factor results are shown in Appendix C.

## Research Design

The design and location of the work units in the large department (hereafter named Department 1) provided the opportunity to use a more advanced research design. For Department 1 half of the worksites were randomly assigned to receive intervention programming in year one, while the other half received no follow-up activities. In year two, the intervention group became the control group and the control group became the intervention group. This cross-over design (Sanson-Fisher, Redman, Hancock et.al., 1996) enables the investigation of the impact of the intervention (programming) and the subsequent sustainability of objective heart health measures and knowledge change without active intervention.

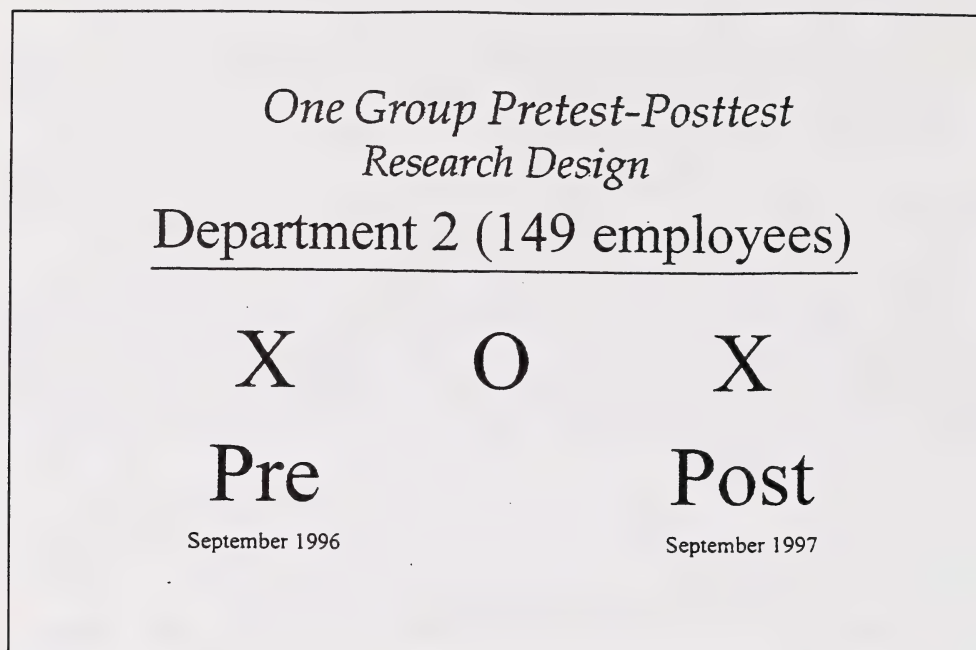
### *Cross-Over Design*

#### Department 2 (648 employees)

X	O	X	X
X		X	O
November 1996	October 1997	October 1998	

Note: Crossover design - worksites randomly assigned to treatment or control

The small department (hereafter named Department 2) used a one group pretest-posttest design (Campbell and Stanley, 1963), where everyone was eligible to receive the heart health programming that happened between the 1996 and 1997 risk screening clinics.



## **Heart Health Programming**

### *1. Computerized Health Risk Appraisal*

Wellness Checkpoint, a health risk appraisal (HRA) developed by Infotech, provides Canadian standards and measures for comparison and hence was chosen over a number of other computerized HRA's. The HRA was offered to employees on their personal pc's. In addition to providing information on health risk associated with hereditary and lifestyle factors, the program also provides two and one-half hours of current health information on a variety of topics (i.e., cardiovascular disease, cholesterol, blood pressure, stress, physical activity, etc.). A guidebook was developed to help employees make the best use of this health risk appraisal tool. The guidebook can be found in Appendix D. Wellness Checkpoint was available to all members of Department 2 and randomly selected worksites in Department 1 between November 1996 and September 1998.



## 2. *Personal Wellness Planner Workshop (Department 2 Only)*

The Personal Wellness Planner Workshop emanated from the need to provide employees with an opportunity to further explore the meaning of personal wellness and to set themselves some action oriented goals. The “Wellness: Skills for Lifestyle Change” workshop (Whole Persons Associates, 1996), based on Prochaska’s stages of change model, was chosen. This model has achieved success in smoking cessation programs (Prochaska, DiClemente, Velicer & Rossi, 1993), is gaining popularity for physical activity acquisition behaviours (Marcus, Pinto, Simkin, Audrain & Taylor, 1994), and forms the theoretical basis for the major Working Well Trial focussing on cancer control in the workplace (Abrams, Boutwell, Grizzle, et. al., 1994; Emmons, Marcus, Linnan, Rossi & Abrams, 1994; Heimendinger, Feng, Emmons, Stoddard, et. Al., 1995). The workshop allows employees to assess their readiness to change, heightens awareness of the various components of personal wellness and then takes participants through a series of goal settings exercises. A *peer teaching delivery model*, using qualified professionals whom are City of Edmonton employees, was used. The workshop was piloted and evaluated in November 1995. Suggested modifications and revisions were completed early in 1996 followed by a “Train the Trainer” session in April 1996. The workshop was offered to employees in Department 2 in November of 1996.

### **Participation Rates after Second Risk Screening in 1997**

As in all major workplaces, there were a number of people who left the target departments throughout the course of the year (1996-1997). Of the 290 participants screened in the fall of 1996, 14 were terminated during the following year. This left 276 employees, who had participated in the 1996 screening, eligible to return for a second screening in the fall of 1997. Of those who could return 116 did (or 42% of all eligible employees)<sup>2</sup>. In addition to the returning employees, another 100 first-time participants came in for a screening. This meant that over the first two years of screening we completed at least one face-to-face counseling session with a total of 390 employees (46% of all employees in Department 1 and 64% of all employees in Department 2). We were extremely pleased with the participation from both departments and feel the level of participation can be partially credited to *active participation* in the project by *senior management* from both departments.

### **KEY LEARNING**

**Active support and participation from SENIOR MANAGEMENT was a key to the success of the workplace heart health project**

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<sup>2</sup> There were no significant differences in the baseline results of employees who did return versus those who did not return for the time 2 testing.

## KEY RESEARCH FINDINGS

- ♥ Males made significant improvements in reducing systolic and diastolic blood pressure
- ♥ Females made significant improvements in HDL cholesterol (the good kind) and significantly reduced systolic blood pressure
- ♥ Perceived (self-rated) health declined significantly for women
- ♥ Employees who received follow-up health programming (treatment group) revealed more significant changes in objective heart health measures than did employees who received no follow-up health programming (control group)
- ♥ In addition to health changes, there were also improvements in non-occupational absenteeism (STD)
- ♥ Average days of STD absenteeism dropped from 5.3 in 1996 to 3.9 in 1997. This represents a saving of \$187/employee or \$21,505 for the 115 returning employees.
- ♥ Heart Health Program *cost/benefit ratio* = \$1 to \$3. For every \$1 spent there was a \$3 return on investment.

## Summary of Results after Second Risk Screening in 1997

### Healthy Hearts at Work

*Test Time 1 & 2 Averages*

	Time 1 - 1996 Totals (N=115)	Time 2 - 1997 Totals (n=115)	p-value (significance)
Age	43	44	
Systolic BP	127.76	123.83**	<.01
Diastolic BP	81.15	80.15	.112
Total Cholesterol	5.56	5.46	.239
HDL Cholesterol	1.16	1.25**	<.01
Body Mass Index	26.33	26.24	.389
Perceived Health	2.41	2.47	.299

### Healthy Hearts at Work

*Test Time 2 MALE Averages*

	Time 1 (1996) Male (n=61)	Time 2 (1997) Male (n=61)	p-value (significance)
Age	43	44	
Systolic BP	131.44	126.85**	<.01
Diastolic BP	84.20	82.18*	<.05
Total Cholesterol	5.75	5.67	.518
HDL Cholesterol	1.04	1.06	.459
Body Mass Index	27.73	27.63	.430
Waist/Hip Ratio	.92	.92	.442
Perceived health	2.56	2.52	.687

### Healthy Hearts at Work

*Test Time 2 FEMALE Averages*

	Time 1 (1996) Female (n=54)	Time 2 (1997) Female (n=54)	p-value (significance)
Age	42	43	
Systolic BP	123.59	120.41**	<.01
Diastolic BP	77.70	77.85	.853
Total Cholesterol	5.33	5.22	.268
HDL Cholesterol	1.31	1.46**	<.01
Body Mass Index	24.79	24.71	.645
Waist/Hip Ratio	.76	.76	.441
Perceived health	2.24	2.41*	<.05



## Treatment versus Control Group Results

### Healthy Hearts at Work

#### *Treatment Group (Dept. #1)*

	Time 1 (1996) Treatment (n=39)	Time 2 (1997) Treatment (n=39)	p-value (significance)
Age	43	44	
Systolic BP	128.36	122.21**	<.01
Diastolic BP	81.33	79.38	.07
Total Cholesterol	5.59	5.27**	<.01
HDL Cholesterol	1.25	1.35*	<.05
Body Mass Index	25.98	25.78	.40
Perceived health	2.33	2.36	.80

### Healthy Hearts at Work

#### *Control Group (Dept. #1)*

	Time 1 (1996) Control (n=48)	Time 2 (1997) Control (n=48)	p-value (significance)
Age	41	42	
Systolic BP	128.83	126.96	.109
Diastolic BP	81.83	82.35	.587
Total Cholesterol	5.71	5.70	.925
HDL Cholesterol	1.08	1.11	.428
Body Mass Index	27.25	27.18	.609
Perceived health	2.56	2.63	.518

### Healthy Hearts at Work

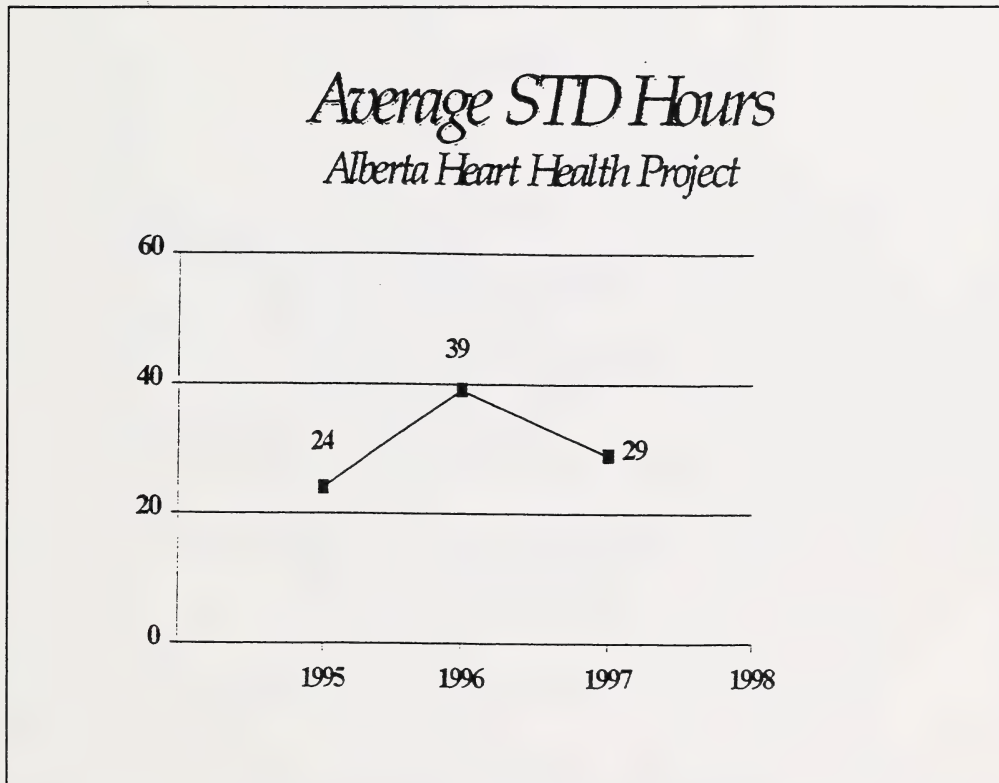
#### *Treatment Group (Dept. #2)*

	Time 1 - 1996 Totals (n=28)	Time 2 - 1997 Totals (n=28)	p-value (significance)
Age	42	43	
Systolic BP	125.07	120.71*	<.05
Diastolic BP	79.71	77.43	.088
Total Cholesterol	5.25	5.34	.467
HDL Cholesterol	1.19	1.33**	<.01
Body Mass Index	25.36	25.38	.932
Perceived Health	2.25	2.36	.326

### Changes in Absenteeism (Dollar Savings \$\$\$)

Though not significant, there was a decline in the absenteeism rate for those employees who took part in the Heart Health Project (Figs. 3,4,5).

Figure 3. Average Hours STD Absenteeism for Heart Health Participants



- Average short-term, non-occupational disability (STD) dropped from 39 hours per employee in 1996 to 29 hours in 1997.
- City of Edmonton averages for the same period were 62 hours per employee in 1996 and 64 hours in 1997.

Figure 4. Average Days of STD Absenteeism for Heart Health Participants

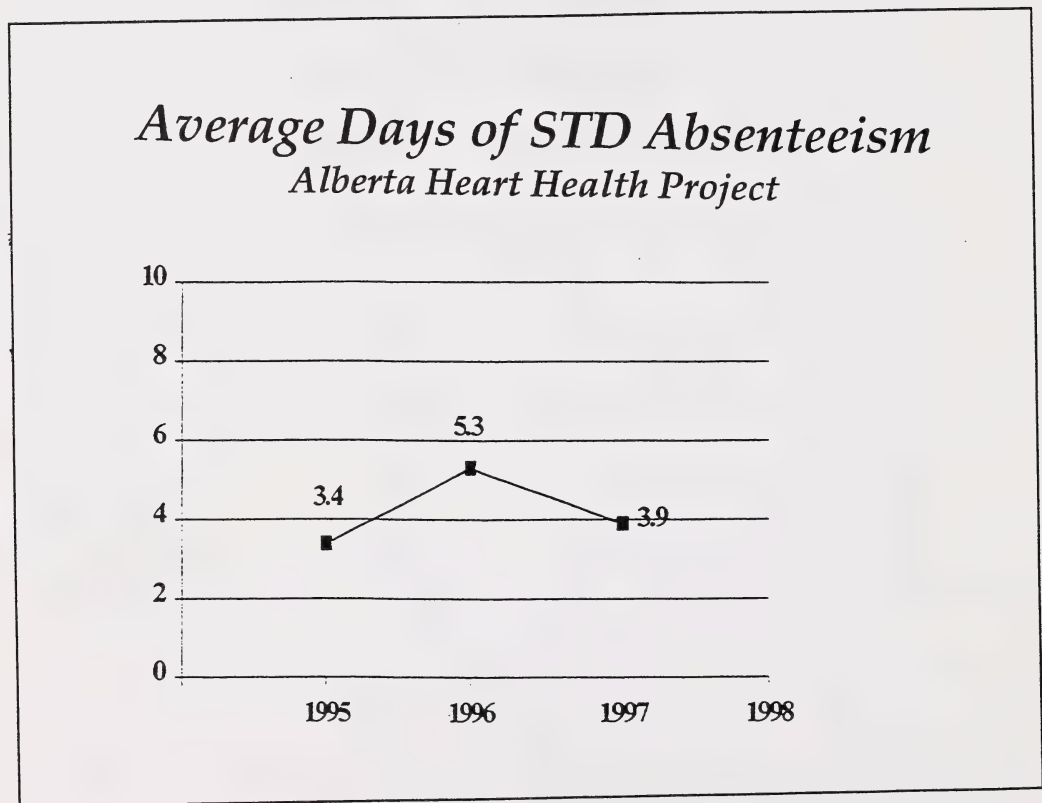
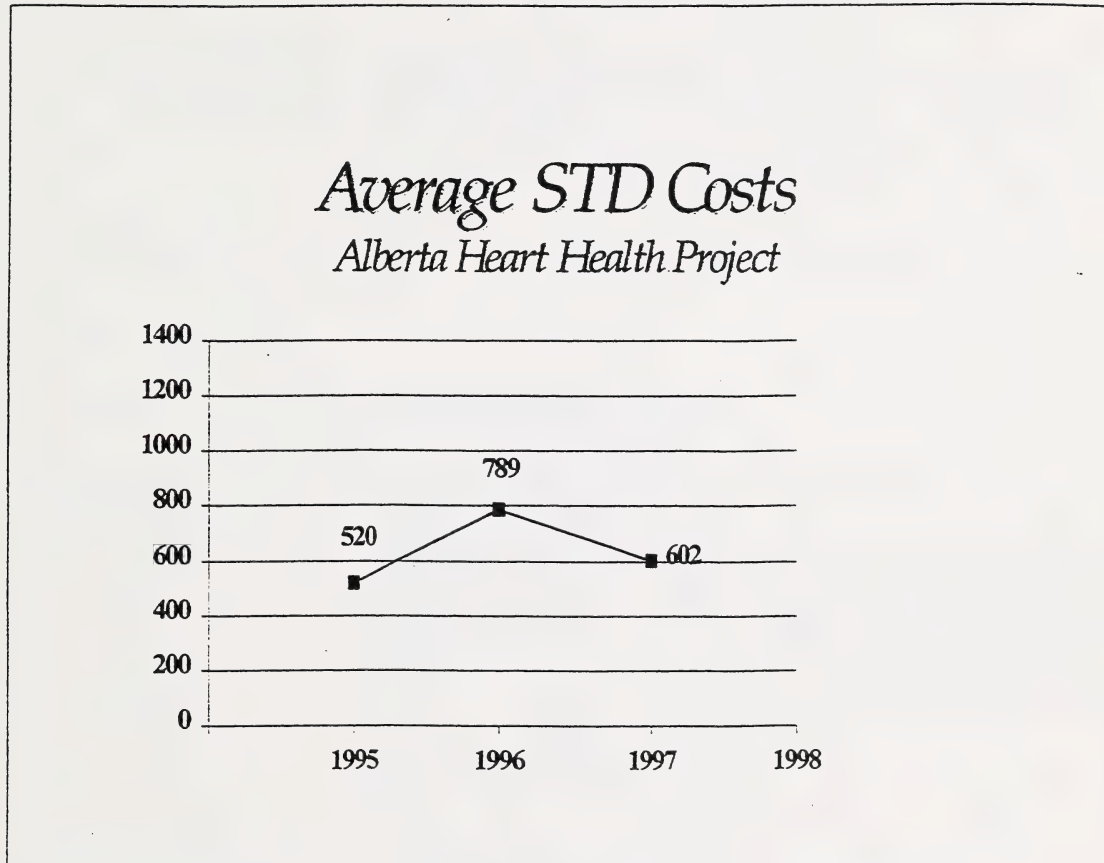




Figure 5. Average Costs of STD Absenteeism for Heart Health Participants



- The average cost of STD absenteeism dropped from \$789 per employee in 1996 to \$602 in 1997.
- Total cost avoidance for the 115 heart health participants was \$21,505.
- Cost/benefit ratio was 1:3. For every \$1 dollar spent there was a \$3 return on investment.

## Putting the Numbers in Perspective....

To put these averages into perspective we have included another set of tables that place the numbers into *meaningful categories*. The following format is what we recommend you use when presenting results to senior management and other folks who may not understand the significance of the averages presented above.

### TOTAL Cholesterol Results

#### Healthy Hearts at Work

*Total Cholesterol Categories (Percent)*

	Paired Sample (N=115)		1990 Alberta Heart Health Survey (N=1963)
	1996	1997	
< 5.2 mmol/L (Acceptable)	37	41	64
5.2 - 6.1 mmol/L (Borderline high)	39	38	25
≥ 6.2 mmol/L (Too High)	24	21	11
Total Cholesterol Ave.	5.56	5.46	

#### Healthy Hearts at Work

*Total Cholesterol Categories (Percent)*

	Males (n=61)		Females (n=54)	
	1996	1997	1996	1997
< 5.2 mmol/L (Acceptable)	31	33	43	51
5.2 - 6.1 mmol/L (Borderline high)	41	39	37	36
≥ 6.2 mmol/L (Too High)	28	28	20	13
Total Cholesterol Ave.	5.75	5.67	5.33	5.22

## HDL Cholesterol Results

### Healthy Hearts at Work *HDL (Good) Cholesterol (Percent)*

	Paired Sample (N=115)		1990 Alberta Heart Health Survey (N=1963)
	1996	1997	
< 0.9 (Low)	24	22	10
≥ 0.9 (Acceptable)	76	78	90
HDL average	1.16	1.25**	

Note: In the case of HDL, the higher the score the better.

### Healthy Hearts at Work *HDL (Good) Cholesterol (Percent)*

	Males (n=61)		Females (n=54)	
	1996	1997	1996	1997
< 0.9 (Low)	38	34	7	7
≥ 0.9 (Acceptable)	62	66	93	93
HDL average	1.04	1.06	1.31	1.46**

Note: In the case of HDL, the higher the score the better.



## Blood Pressure Results

### Healthy Hearts at Work

*Systolic and Diastolic Blood Pressure (Percent)*

Systolic BP	Paired 96 (n=115)	Paired 97 (n=115)	Diastolic BP	Paired 96 (n=115)	Paired 97 (n=115)
Below 130 (Normal)	61	64	Below 85 (Normal)	68	70
130-139 (High Normal)	23	24	85-89 (High Normal)	12	10
140 & Above (High)	16	12	90 & Above (High)	20	19
Systolic BP Ave.	127.76	123.83**	Diastolic BP Ave.	81.15	80.15

### Healthy Hearts at Work

*Systolic and Diastolic Blood Pressure (Percent)*

Systolic BP	Males 96 (n=61)	Males 97 (n=61)	Diastolic BP	Males 96 (n=61)	Males 97 (n=61)
Below 130 (Normal)	52	54	Below 85 (Normal)	54	66
130-139 (High Normal)	25	33	85-89 (High Normal)	16	15
140 & Above (High)	23	13	90 & Above (High)	30	20
Systolic BP Ave.	131.44	126.85**	Systolic BP Ave.	84.2	82.18*

### Healthy Hearts at Work

*Systolic and Diastolic Blood Pressure (Percent)*

Systolic BP	Females 96 (n=54)	Females 97 (n=54)	Diastolic BP	Female 96 (n=54)	Female 97 (n=54)
Below 130 (Normal)	70	74	Below 85 (Normal)	83	76
130-139 (High Normal)	22	15	85-89 (High Normal)	7	6
140 & Above (High)	8	11	90 & Above (High)	9	18
Systolic BP Ave.	123.59	120.41**	Diastolic BP Ave.	77.7	77.85

## Body Mass Index Results

### Healthy Hearts at Work

*BMI Categories (Percent)*

	Paired Sample (N=115)	1990 Alberta Heart Health Survey (N=1963)
	1996	1997
< 20 (Underweight)	2	4
20-24 (Acceptable)	39	39
25-27 (High normal)	26	23
≥ 27 (Overweight)	33	35
BMI Average	26.33	26.24
		25.60

**Note:** Body Mass Index is a guideline for assessing "healthy weights". It is a simple calculation of body weight divided by height squared.

### Healthy Hearts at Work

*BMI Categories (Percent)*

	Males (n=61)		Females (n=54)	
	1996	1997	1996	1997
< 20 (Underweight)	---	2	4	6
20-24 (Acceptable)	26	28	54	52
25-27 (High normal)	28	26	23	19
≥ 27 (Overweight)	46	45	19	23
BMI Average	27.73	27.63	24.79	24.71

**Note:** Body Mass Index is a guideline for assessing "healthy weights". It is a simple calculation of body weight divided by height squared.

## Waist/Hip Ratio Results

### Healthy Hearts at Work

*WHR Categories (Percent)*

	Paired Sample (n=61)			Paired Sample (n=54)	
Male WHRatios	1996	1997	Female WHRatios	1996	1997
< 0.9 (Acceptable)	38	47	< 0.8 (Acceptable)	77	77
≥ 0.9 (Too High)	62	53	≥ 0.8 (Too High)	23	23
WHR average	.92	.92	WHR average	.76	.76

**Note:** The Waist/Hip ratio is a measure of where body fat is distributed. A high WHR indicates the fat is distributed above the waist which is harder on your heart. For men the cutoff is .9, for women it is .8.

## Perceived Health (Self-Rated Health) Results

### Healthy Hearts at Work

*Self-Rated Health (Percent)*

	Paired Sample (n=115)		1996 C of E Health in the Workplace Survey (Total sample = 3,354)
	1996	1997	
Excellent	11	12	16
Very Good	44	38	40
Good	37	40	37
Fair	8	10	6
Poor	---	---	1
Health average	2.41	2.47	

**Note:** Self-rated health is measured on a scale with 1=Excellent and 5=Poor. The lower the average the higher the self-rated health.

### Healthy Hearts at Work

*Self-Rated Health (Percent)*

	Males (n=61)		Females (n=54)	
	1996	1997	1996	1997
Excellent	7	10	17	15
Very Good	41	38	48	39
Good	43	42	30	37
Fair	10	10	5	9
Poor	---	---	---	---
Health average	2.56	2.52	2.24	2.41*

**Note:** Self-rated health is measured on a scale with 1=Excellent and 5=Poor. The lower the average the higher the self-rated health.



## Smoking Prevalence Results

### Healthy Hearts at Work

*Smoking Prevalence (Percent)*

	Paired Sample (n=115)		1990 Alberta Heart Health Survey
	1996	1997	(N=1963)
Smoke	14	13	27
No Smoke	86	87	73

### Healthy Hearts at Work

*Smoking Prevalence (Percent)*

	Males (n=61)		Females (n=54)	
	1996	1997	1996	1997
Smoke	16	18	11	7
No Smoke	84	82	89	93

## Physical Activity Prevalence Results

### Healthy Hearts at Work

*Physical Activity Prevalence (Percent)*

	Paired Sample (n=115)		1990 Alberta Heart Health Survey
	1996	1997	(N=1963)
Active	60	67	63
Not Active	40	33	37

### Healthy Hearts at Work

*Physical Activity Prevalence (Percent)*

	Males (n=61)		Females (n=54)	
	1996	1997	1996	1997
Active	62	62	57	72
Not Active	38	38	43	28

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*PRIOR to participating in last year's clinic did you know your*

	<u>YES</u>	<u>NO</u>
Cholesterol levels?	32%	68%
Blood pressure levels?	55%	45%
Body mass index?	18%	82%
Waist/hip ratio?	14%	86%

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*Have you made any CHANGES in your LIFESTYLE in the last year as a direct result of the Healthy Hearts at Work clinic?*

- 14% YES, the clinic definitely encouraged me to change my lifestyle
- 39% YES, the clinic has some impact on my lifestyle behaviours
- 6% I am not sure if the clinic influenced me to change
- 19% NO, I had already started making changes on my own
- 14% NO, I did not make any changes, but I started thinking more about my health and wellness
- 8% I had no need to change
-

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What TYPES OF CHANGES did you make?

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38%	Started trying to manage stress in my life
60%	Cut back on amount of fat in foods
43%	Chose a healthier, more nutritious diet
50%	Started to do more physical activity
24%	Cut back on the amount of salt in my diet
8%	Stopped (or cut back) smoking
36%	Tried to lose weight

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## TELLING THE STORY (DISSEMINATION)

Once the results of the first two years of the “Healthy Hearts at Work” pilot project were available they were presented to the General Manager of the participating department (the two departments in the study amalgamated at the end of the project). The General Manager shared the results with the department Management Team and then the employee-based Health & Safety committee. Once permission was received, the results were presented to the entire City of Edmonton Senior Management Team (i.e., City Manager and all eight department General Managers). Senior Management Team accepted the recommendation that the heart health project be phased-in throughout the corporation over the next three years. This would give every employee in the corporation the opportunity to learn more about their heart health.

In the spring of 1998 a presentation was made to the Transportation Department at the City of Edmonton, proposing the phase-in of the heart health project start in their department. The Transportation Management Team wasted little time in accepting the proposal, which would allow every employee access to a heart health risk-screening clinic throughout 1998. The cost of the project would be borne solely by the department, but given the cost-benefit results from the pilot project, cost quickly became a non-issue.

### An Interesting Aside

The Transportation Management Team felt it would be best to start the project at the downtown head-office location and then proceed to the many transportation yards located throughout the City. ***On the afternoon of the first testing day, the General Manager appeared at the door for a heart health check. Management support was evident!***

## CONCLUSIONS

The partnership established between Alberta Health (Alberta Heart Health Project) and the City of Edmonton Human Resources department was a key to the successful implementation of the “Healthy Hearts at Work” pilot project. The collaboration shown between traditional health sector (Alberta Health) and non-health sector partners (City of Edmonton) was unique to the Alberta Heart Health Project, yet one that bore fruitful results.

With the millenium approaching, workplaces across Canada will be facing the same problems as the City of Edmonton – escalating costs of employee health-related benefits and absenteeism, largely brought on by an aging population of workers. All workplaces will be looking for assistance to reduce these costs. The planning and implementation of comprehensive employee health programs aimed at education and prevention will undoubtedly help in curbing human resource-related costs. The City of Edmonton’s heart health project is but one example of many employee health success stories (see the ***Recommended Reading List*** for more examples).

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## **RECOMMENDED READING LIST**

### **Journals**

1. Employee Health and Productivity (Canada's Leading Managed Care Publication)
2. Benefits Canada
3. American Journal of Health Promotion
4. Worksite Health (Journal of the Association for Worksite Health Promotion)
5. American Journal of Public Health
6. Journal of Occupational Medicine
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## **Review Articles**

1. Pelletier, K. (1993). A review and analysis of the health and cost-effective outcome studies of comprehensive health promotion and disease prevention programs at the worksite: 1991-1993 Update. *Am. J. Health Promotion*, 8 (1), 50-62.
2. Pelletier, K. (1996). A review and analysis of the health and cost-effective outcome studies of comprehensive health promotion and disease prevention programs at the worksite: 1993-1995 Update. *Am. J. Health Promotion*, 10 (5), 380-388.

## **APPENDIX A**

### **Selling the Heart Health Project to Department General Managers**

#### **Sample Presentation**

## Disability Plan Statistics

### 5 Year Overview

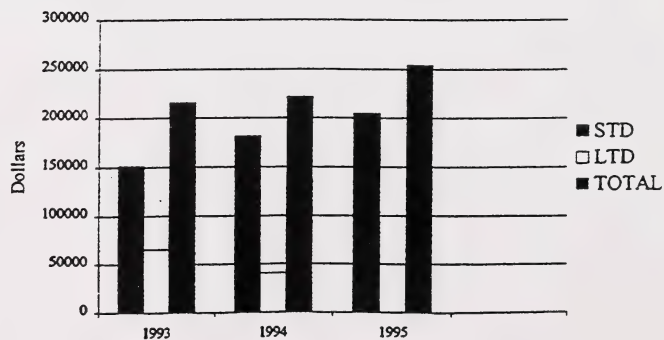
### Disability Plan - 1995 Totals

- Number of Employees - XXXX
- STD/LTD Hours Used - 14,629
- Average STD/LTD Hours - 91  
(City Average - 84)
- Total STD/LTD Amount - \$254,540  
(City Total Amount - \$11,583,421)
- Average STD/LTD Amount - \$1,581  
(City Amount Average - \$1,407)
- Average Incidents - 1.82 (City Ave. - 1.54)

## Employee and Incident Averages

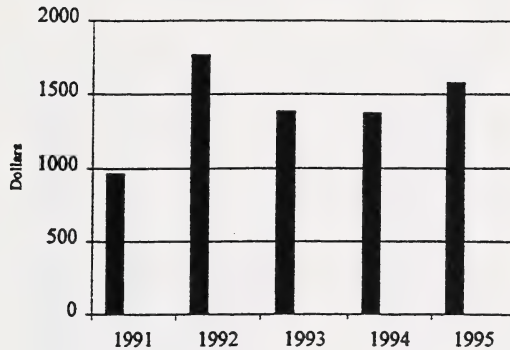
- | • Average Number of Employees | • Average Number of Incidents |
|-------------------------------|-------------------------------|
| • 1991 - XXXX                 | • 1991 - 1.78                 |
| • 1992 - XXXX                 | • 1992 - 1.78                 |
| • 1993 - XXXX                 | • 1993 - 1.87                 |
| • 1994 - XXXX                 | • 1994 - 2.14                 |
| • 1995 - XXXX                 | • 1995 - 1.82                 |

## Total STD/LTD Costs

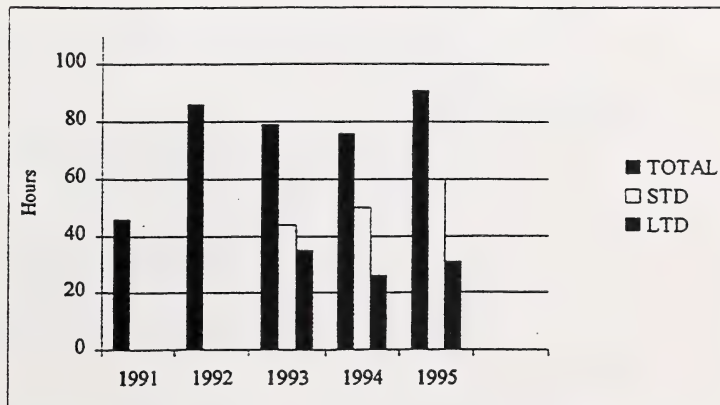




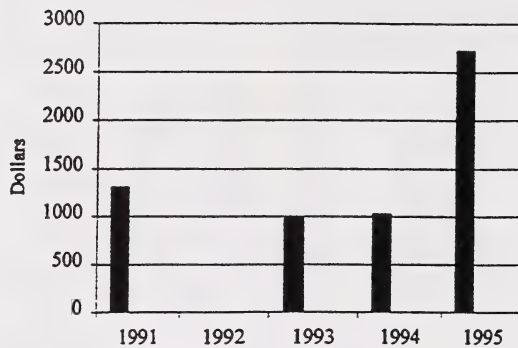
## Average STD/LTD Costs



## Average STD/LTD Hours Used



## Total WCB Claim Costs



## Heart Health Project Partners

- Alberta Heart Health Project (Alberta Health).
- City of Edmonton prepared a successful proposal last fall to become a Pilot Site
- Funding Support for two years.
- Major Objective: Will enhanced wellness offerings impact non-occupational absenteeism?

## Special Heart Health Programming Options

- Employee or Committee Driven
- Menu Approach
- Choice offered
- Voluntary participation
- HIP - began Jan. 96
- CD ROM self-education (Heart Health, Medications)
- Health Risk Appraisal with goal setting
- Health Fair (BP, Cholesterol, BMI)
- Video Series
- Pamphlets
- Personal Wellness Planner Workshop

## Why YOUR Department?

- Strong interest from '93 Health Survey
- Rising non-occupational absenteeism hours, costs & incidents (especially STD)
- Downtown core and satellites
- Reasonable size

## Sounds Good BUT What Will This Cost?

- Programming materials will be covered by the Heart Health Grant
- Will require coordination and cooperation from your Computer Support group
- May require a designated computer with CD Rom (if self-education option chosen)



## **APPENDIX B**

### **Evaluation Questionnaires for Heart Health Project**

## HEALTHY HEARTS at WORK September 1996

Please complete the following questions while you are waiting to visit the ***Healthy Hearts at Work*** stations. Please hold on to this sheet, as we will collect it from you at the end of the session.

1. In your opinion would you say your health is.... (Please circle one)

- ♥ Excellent
- ♥ Very Good
- ♥ Good
- ♥ Fair
- ♥ Poor

2. In your opinion, what are the MAJOR CAUSES of heart disease? (Please circle all that apply).

- ♥ high blood pressure
- ♥ high blood cholesterol
- ♥ physical inactivity
- ♥ family history
- ♥ fat in the diet
- ♥ obesity
- ♥ smoking
- ♥ stress
- ♥ diabetes
- ♥ alcohol
- ♥ other (please list) \_\_\_\_\_
- ♥ Don't know

3. Which item BEST DESCRIBES the place of *physical activity* in your lifestyle?(Please Circle One)

- ♥ I currently do not include physical activity as part of my daily lifestyle, and I do not intend to start in the next 6 months.
- ♥ I currently do not include physical activity as part of my daily lifestyle, but I am thinking of increasing my physical activity in the next 6 months.
- ♥ I currently include physical activity in my daily lifestyle, but have only begun this in the past 6 months.
- ♥ I currently include physical activity in my daily lifestyle, and have done this for longer than 6 months.
- ♥ I have included physical activity in my daily lifestyle in the past, but I am not doing so currently.

4. What HEALTH PROBLEMS do you think might be related to the amount of *fat* that people eat? (Please circle all that apply)

- ♥ overweight/ obesity
- ♥ heart disease/ coronary disease/ heart problems/ heart attack
- ♥ high blood pressure
- ♥ high blood cholesterol
- ♥ arteriosclerosis/ hardening of the arteries/ fat build-up in the arteries
- ♥ other (Please list) \_\_\_\_\_
- ♥ Don't know

5. To the best of your knowledge, what things can a person do to PREVENT HIGH BLOOD PRESSURE? (Please circle all that apply).

- ♥ take medicine
- ♥ take medicine and some other treatment
- ♥ reduce or eliminate salt in the diet
- ♥ watch weight
- ♥ avoid stress/slow down/relax
- ♥ cut down or stop smoking
- ♥ cut down alcohol intake
- ♥ exercise regularly
- ♥ use biofeedback
- ♥ Other (Please list) \_\_\_\_\_
- ♥ Don't Know

6. Which item BEST DESCRIBES the place of *smoking* in your lifestyle? (Check ONE)

- ♥ I have never smoked.
- ♥ I used to smoke, but quit more than 6 months ago. ♥
- I used to smoke but quit within the past 6 months. ♥
- I currently smoke, but I plan to quit smoking in the next month. ♥
- I currently smoke, but I seriously intend to quit smoking in the next 6 months.
- ♥ I currently smoke and have no intentions of quitting.



7. What is your employee #: 0 \_\_\_\_\_

8. Gender

- ♥ Male
- ♥ Female

9. How old are you?

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Day    Month    Year

10. What is your highest level of education (please check only one answer)?

- ♥ Elementary school
- ♥ Went to high school but didn't finish
- ♥ Finished high school
- ♥ Community college but didn't finish
- ♥ Finished community college
- ♥ Went to university but didn't finish
- ♥ University degree
- ♥ Graduate degree
- ♥ Completion of a Certificate Program

11. What is your marital status right now (please check only one answer)?

- ♥ Single/never married
- ♥ Married
- ♥ Widowed
- ♥ Separated
- ♥ Divorced
- ♥ Living with someone

12. How long have you been with this organization?

- ♥ 21 or more years
- ♥ 16 - 20 years
- ♥ 11 - 15 years
- ♥ 6-10 years
- ♥ 1-5 years
- ♥ Less than one year

13. What Union/Association do you belong to?

- ♥ CUPE Local 30
- ♥ Management/CEMA
- ♥ CSU 52/Out of Scope
- ♥ ATU Local 569
- ♥ Not a union member

**Thank you!**



## HEALTHY HEARTS at WORK September 1997

Please complete the following questions while you are waiting to visit the *Healthy Hearts at Work* stations. Please hold on to this sheet as we will collect it from you at the end of the session.

1. In your opinion would you say your health is.... (Please circle one)

- ♥      Excellent
- ♥      Very Good
- ♥      Good
- ♥      Fair
- ♥      Poor

2. In your opinion, what are the MAJOR CAUSES of heart disease? (Please circle all that apply).

- ♥      high blood pressure
- ♥      high blood cholesterol
- ♥      physical inactivity
- ♥      family history
- ♥      fat in the diet
- ♥      obesity
- ♥      smoking
- ♥      stress
- ♥      diabetes
- ♥      alcohol
- ♥      other (please list) \_\_\_\_\_
- ♥      Don't know

3. Which item BEST DESCRIBES the place of *physical activity* in your lifestyle?(Please Circle One)

- ♥ I currently do not include physical activity as part of my daily lifestyle, and I do not intend to start in the next 6 months.
- ♥ I currently do not include physical activity as part of my daily lifestyle, but I am thinking of increasing my physical activity in the next 6 months.
- ♥ I currently include physical activity in my daily lifestyle, but have only begun this in the past 6 months.
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4. What HEALTH PROBLEMS do you think might be related to the amount of *fat* that people eat? (Please circle all that apply)

- ♥ overweight/ obesity
- ♥ heart disease/ coronary disease/ heart problems/ heart attack
- ♥ high blood pressure
- ♥ high blood cholesterol
- ♥ arteriosclerosis/ hardening of the arteries/ fat build-up in the arteries
- ♥ other (Please list)\_\_\_\_\_
- ♥ Don't know

5. To the best of your knowledge, what things can a person do to PREVENT HIGH BLOOD PRESSURE? (Please circle all that apply).

- ♥ take medicine
- ♥ take medicine and some other treatment
- ♥ reduce or eliminate salt in the diet
- ♥ watch weight
- ♥ avoid stress/slow down/relax
- ♥ cut down or stop smoking
- ♥ cut down alcohol intake
- ♥ exercise regularly
- ♥ use biofeedback
- ♥ Other (Please list) \_\_\_\_\_
- ♥ Don't Know

6. Which item BEST DESCRIBES the place of *smoking* in your lifestyle? (Check ONE)

- ♥ I have never smoked.
- ♥ I used to smoke, but quit more than 6 months ago. ♥
- I used to smoke but quit within the past 6 months. ♥
- I currently smoke, but I plan to quit smoking in the next month. ♥
- I currently smoke, but I seriously intend to quit smoking in the next 6 months.
- ♥ I currently smoke and have no intentions of quitting.

7. Did you participate in last year's "Healthy Hearts at Work" clinic?

- ♥ Yes
- ♥ No
- ♥ Can't remember

**If you DID NOT participate in "Healthy Hearts at Work" clinic last year or you can't remember, please go to Question 11 on Page 5.**

***Complete Questions 8-10 ONLY if you took part in "Healthy Hearts at Work" last year***



8. **PRIOR TO** participating in last year's clinic did you..... (check as many as apply)

- |   |                                   |     |    |
|---|-----------------------------------|-----|----|
| ♥ | Know your cholesterol levels?     | Yes | No |
| ♥ | Know your blood pressure reading? | Yes | No |
| ♥ | Know your body mass index ?       | Yes | No |
| ♥ | Know your waist/hip ratio?        | Yes | No |

9. Have you made any **CHANGES** in your lifestyle in the last year *as a direct result of* the "Healthy Hearts at Work" clinic?

- ♥ YES, the clinic definitely encouraged me to change my lifestyle
- ♥ Yes, the clinic had some impact on my lifestyle behaviours
- ♥ I am not sure if the clinic influenced me to change
- ♥ No, I had already started making changes on my own
- ♥ No, I did not make any changes but I started thinking more about my health and wellness
- ♥ I had no need to change

10. What **TYPES OF CHANGES** did you make? ..... (circle as many as apply)

- ♥ Started trying to manage stress in my life
- ♥ Cut back on amount of fat in foods
- ♥ Chose a healthier more nutritious diet
- ♥ Started to do more physical activity
- ♥ Cut back on the amount of salt in my diet
- ♥ Stopped (or cut back) smoking
- ♥ Tried to lose weight
- ♥ \_\_\_\_\_ (Other, please list)
- ♥ \_\_\_\_\_
- ♥ \_\_\_\_\_

11. Which of the City's *Workplace Wellness activities* have you PARTICIPATED IN?

- ♥ Read the Wellness Works bulletins

- ♥ Use Community Services fitness facilities at a 50% discount
- ♥ Attended a brown bag lunch on nutrition and/or cholesterol
- ♥ Joined the Health Incentive Program (HIP)
- ♥ 1997 Sneaker Day Walk
- ♥ Tried the computerized health risk appraisal on my worksite computer
- ♥ Watched a wellness video

\_\_\_\_\_ (others, please list)

12. Would you **RECOMMEND** the "Healthy Hearts at Work" clinic to other City of Edmonton employees?

- ♥ Yes
- ♥ No

13. What is your employee #: 0 \_ \_ \_ \_ \_

14. Gender

- ♥ Male
- ♥ Female

15. How old are you?

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Day    Month    Year

16. What is your highest level of education (please check only one answer)?

- ♥ Elementary school
- ♥ Went to high school but didn't finish
- ♥ Finished high school
- ♥ Community college but didn't finish
- ♥ Finished community college
- ♥ Went to university but didn't finish
- ♥ University degree
- ♥ Graduate degree
- ♥ Completion of a Certificate Program

17. What is your marital status right now (please check only one answer)?

- ♥ Single/never married
- ♥ Married
- ♥ Widowed
- ♥ Separated
- ♥ Divorced
- ♥ Living with someone

18. How long have you been with this organization?

- ♥ 21 or more years
- ♥ 16 - 20 years
- ♥ 11 - 15 years
- ♥ 6-10 years
- ♥ 1-5 years
- ♥ Less than one year

19. What Union/Association do you belong to?

- ♥ CUPE Local 30
- ♥ Management/CEMA
- ♥ CSU 52/Out of Scope
- ♥ ATU Local 569
- ♥ Not a union member

**Thank you!**



## **APPENDIX C**

### **Baseline Heart Health Screening Results**



## Summary of Heart Health Baseline Results

### Healthy Hearts at Work Total Sample (Departments 1 & 2)

#### *Test Time 1 Averages*

	Totals (N=290)	Female (N=145)	Male (N=145)
Age	42	41	43
Systolic BP	128	124	132
Diastolic BP	81	79	84
Total Cholesterol	5.65	5.43	5.86
HDL Cholesterol	1.19	1.35	1.02
Body Mass Index	26.82	25.9	27.75
Waist/Hip Ratio		.77	.92
Perceived Health	2.57	2.53	2.61

### Healthy Hearts at Work Department 1

#### *Test Time 1 Averages*

	Totals (N=214)	Female (N=84)	Male (N=130)
Age	42	40	43
Systolic BP	129	124	132
Diastolic BP	82	79	84
Total Cholesterol	5.77	5.57	5.91
HDL Cholesterol	1.17	1.4	1.02
Body Mass Index	26.87	25.67	27.66
Waist/Hip Ratio		.77	.92
Perceived Health	2.6	2.6	2.6

### Healthy Hearts at Work Department 2

#### *Test Time 1 Averages*

	Totals (N=76)	Female (N=61)	Male (N=15)
Age	43.5	42.97	45.77
Systolic BP	124.53	123.11	130.27
Diastolic BP	79.89	78.75	84.53
Total Cholesterol	5.29	5.24	5.49
HDL Cholesterol	1.24	1.28	1.06
Body Mass Index	26.67	26.20	28.59
Waist/Hip Ratio	.79	.77	.90
Perceived Health	2.49	1.64	2.67

## Put the Numbers in Perspective....

To put these averages into perspective we have included another set of tables that place the numbers into *meaningful categories*. The following format is what we recommend you use when presenting results to senior management and other folks who may not understand the significance of the averages presented above.

### TOTAL CHOLESTEROL

**Healthy Hearts at Work**  
Baseline Results (Fall 1996)  
*Total Cholesterol Categories (Percent)*

	Dept 1 (N=214)	Dept 2 (N=76)
< 5.2 mmol/L (Acceptable)	31	43
5.2 - 6.1 mmol/L (Borderline high)	35	38
≥ 6.2 mmol/L (Too High)	34	19

### HDL CHOLESTEROL

**Healthy Hearts at Work**  
Baseline Results (Fall 1996)  
*HDL (Good) Cholesterol (Percent)*

	Dept 1 (N=214)	Dept 2 (N=76)
< 0.9 (Low)	26	10
≥ 0.9 (Acceptable)	74	90

### BLOOD PRESSURE

**Healthy Hearts at Work**  
Baseline Results (Fall 1996)  
*Systolic and Diastolic Blood Pressure*

	Dept 1 (N=214)	Dept 2 (N=76)		Dept 1 (N=214)	Dept 2 (N=76)
Systolic BP			Diastolic BP		
Below 130 (Normal)	55	68	Below 85 (Normal)	63	75
130-139 (High Normal)	25	20	85-89 (High Normal)	14	12
140 & Above (High)	19	12	90 & Above (High)	23	13

## BODY MASS INDEX (BMI)

### Healthy Hearts at Work Baseline Results (Fall 1996) *BMI Categories (Percent)*

	Dept 1 (N=214)	Dept 2 (N=76)
< 20 (Underweight)	3	5
20-24 (Acceptable)	32	39
25-27 (High normal)	23	27
≥ 27 (Overweight)	42	29
BMI Average	26.87	26.67

## WAIST/HIP RATIOS (WHR)

### Healthy Hearts at Work Baseline Results (Fall 1996) *WHR Categories (Percent)*

	Dept 1 (N=110)	Dept 2 (N=15)		Dept 1 (N=74)	Dept 2 (N=61)
Male WHRatios			Female WHRatios		
< 0.9 (Acceptable)	34	53	< 0.8 (Acceptable)	73	70
≥ 0.9 (Too High)	66	47	≥ 0.8 (Too High)	27	30

## PERCEIVED HEALTH RATINGS

### Healthy Hearts at Work Baseline Results (Fall 1996) *Perceived Health (Percent)*

	Dept 1 (N=214)	Dept 2 (N=76)
Excellent	8	11
Very Good	36	41
Good	47	38
Fair	8	11
Poor	1	-

## SMOKING PREVALENCE

**Healthy Hearts at Work**  
Baseline Results (Fall 1996)  
*Smoking Prevalence (Percent)*

	Dept 1 (N=214)	Dept 2 (N=76)
Smoke	21	12
No Smoke	79	88

## PHYSICAL ACTIVITY PREVALENCE

**Healthy Hearts at Work**  
*Physical Activity Prevalence (Percent)*

	Department #1 (N=211) 1996	Department #2 (N=76) 1996
Active	60	67
Not Active	40	33

## **APPENDIX D**

### **Wellness Checkpoint Guidebook (Personal Health Risk Appraisal)**





# *Wellness Checkpoint Guide*

■ To access the Personal Health Risk Appraisal.....

■ **CLICK** on Wellness Checkpoint Icon

- The **MAIN MENU** will contain four boxes; About Wellness, Wellness Assessment, Wellness Strategy and Wellness Reports

# *Wellness Checkpoint Guide*

- **About Wellness** is the first box - it gives you an overview of what wellness is. The slides are great - you may wish to start here!
- **Wellness Assessment** is the second box. This will allow you to assess your personal wellness. At the end you get a print-out of your personal results.

# *Tips and Tricks for Completing Your Assessment*



- **Review Risk Profile** allows you to re-check your question answers
- **Print Personal Profile** allows you to print your risk assessment



# ***WELLNESS CHECKPOINT***

---

## ***Personal Health Risk Appraisal***

*brought to you by*



**ALBERTA HEART  
HEALTH PROJECT**



# *Accessing Your Data Wellness Checkpoint*

*You can access your personal profile data from two options on the Main Menu; Wellness Assessment and Wellness Reports*

- *On selecting these Menu choices you will be asked to enter the Personal Identifier (employee number) and Password you selected at the first session.*

# *Wellness Checkpoint Guide*

- **Wellness Strategy** is the third box. *This area will allow you find the answer to all sorts of health-related issues (diabetes, heart disease, cancer, lifestyle, coping strategies, etc.)*
- **Wellness Reports** is the last box. *It allows you to check and see how your results compare to people who have already completed the assessment.*



# Completing Your Assessment

■ ARE YOU READY? Let's start.....

■ With the **Wellness Assessment**

■ Please enter your *Personal Identifier - seven-digit employee payroll number*

- Now create a *Password for yourself - (please write it down in case you forget) Max. 10 characters. This ensures the confidentiality of your results.*

■ NOTE: As with the Employee Health Survey, group results will be used for research purposes only.

# *Completing Your Assessment*

- From this point on you can only store and access your profile information using this **UNIQUE** personal password
- If you forget your password, you will need to select another one. You will lose access to your earlier assessment data when you set a new password.

# *Completing Your Assessment*

*You will need to answer ALL THE QUESTIONS in the health assessment. If you cannot complete the assessment, you can end the session (File and End Session) and save the data for later completion.*



# *Completing Your Assessment*

*If you did not complete your last assessment.... You will review the data to the point at which you quit your last session and then continue to complete the assessment.*

- *ALL questions must be answered in order to receive your health risk profile.*

# *Completing Your Assessment*

- ***At any point in the assessment, except when the system is waiting for a number to be entered, you can click on a previous question to change your answer.***
- ***The assessment will continue from the point of change based on the new answer.***

# Completing Your Assessment

## Special Buttons



The buttons displayed at the bottom of the assessment allow you to move back and forth through the assessment.

- **Previous Page** - review and revise answer
- **Next Page** - Only useful if you have used the Previous Page button



# *Tips and Tricks for Completing Your Assessment*



- **UNION status** - *if you are not a Union member select CSU 52 Out-of-Scope*
- **Family Status** - *Once you have entered your family status, Click on **Next Question** to move along*
- **Alcohol Consumption** - *Once you have entered your alcohol consumption patterns, Click on **Next Question** to move along*



# *Tips and Tricks for*

## *Completing Your Assessment*



ALBERTA HEART  
HEALTH PROJECT

■ Once you have completed the assessment you will have **FOUR CHOICES**.....

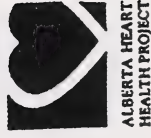
- 1. You can **REVIEW** Your Risk Profile
- 2. You can **Print** your Risk Profile
- 3. You can **Set** Personal Goals
- 4. You can **EXIT**

# *Tips and Tricks for Completing Your Assessment*

- **Set Goals** allows you to go back and set personal goals on specific lifestyle behaviours (if you make any changes - and you enter the changes, your risk profile will be revised!)

- **EXIT** allows you to exit the **Wellness Assessment**.

# *Wellness Risk Score and Goal Setting*



■ **The Wellness Risk Score (out of 100%) is broken down by family-related risk and lifestyle-related risk.**

- **Goal Setting - Each factor contributing to the overall score can be reviewed, new goals set and their impact on the total Wellness Risk Score projected.**



# *Wellness Strategy Cards*

- The WELLNESS GAME contains over 2 1/2 hours of instructional and reference information covering 17 factors that can affect your wellness.
- The topics are presented in the form of a “card game” where you can pick any card to access important health information.



# Wellness Strategy Cards

■ For each **card topic** you can:

- Learn about how your body works
- Get to understand the causes of health problems
- Learn what factors increase or decrease risk
- Get practical advice on DO's and DON'Ts for a healthier lifestyle

# Wellness Strategy Cards

If you want to get out of a card click on the **top left-hand corner** and **CLOSE** the topic.

- After you have read a Strategy Card you can choose to print the information by clicking on **PRINT** or move on by clicking **CLOSE**.









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